Br Heart J 1987;58:552–5

Jubilee Editorial

Cardiology: a transatlantic view (1)

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As a cardiology trainee at the Massachusetts General Hospital I studied with Paul Dudley White. When Dr White reminisced about his medical career I heard tales of Sir Thomas Lewis and the events that led to the description of the Wolff-Parkinson-White syndrome. Dr White's experience in Britain formed the basis for the development of American cardiology. He brought back with him clinical and experimental views of the electrocardiogram, insight into the value of a careful detailed history and physical examination, and an admiration for clinical investigation that was reflected in his own subsequent work. American cardiology owes much to its British heritage and I have the sense of a personal continuum with that legacy.

During 1984–85 I was a visiting professor and consultant at the National Heart Hospital. I practised cardiology and was responsible for a firm within the hospital. I was also provided with laboratory facilities and support from the British Heart Foundation in order to carry out a laboratory project. I should like to reflect on some of my experiences with patient care and research during that period.

Many American commentators have reported on the organisation and administration of the National Health Service as an institution, comparing it with the fee for service arrangement in the United States.[1 2] I prefer to focus on the function of British cardiology rather than on its organisation. My perspective was principally limited to experiences in London teaching hospitals with an occasional visit to the provinces and to general practitioners. As a consultant, however, I dealt with physicians throughout the country and met many general practitioners participating in continuing education within the National Heart Hospital.

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The patient–doctor relationship

Compared with American doctors, British physicians continue to occupy a position of much greater authority in relation to patients. My British patients rarely participated in decision-making about care, which is the practice in America. When I began to explain a procedure or treatment patients usually interrupted and suggested that they merely wanted to know what I recommended. Most of the hospital outpatient departments that I visited were characterised by a large desk that separated the patient from the physician.

I was particularly impressed by the stoicism of British patients. They rarely complained of discomfort or inconvenience. Frequently, when a procedure was complicated or unsuccessful, the patient seemed almost to apologise for the result. Several house physicians told me that they avoided American patients because Americans asked too many questions, worried about costs, and took too much time.

It was reassuring for patients to place themselves so completely in doctor's hands. A Law Lord described this as "trust." This response, however, often minimised the patient's responsibility for his or her own health. This was particularly true when changes in life style were discussed—for example, alterations in diet, cigarette smoking, or physical activity.

Many British colleagues told me that the interest of American patients in procedures and the greater development of informed consent in the United States arose out of the malpractice problem. In part this is true, particularly, for informed consent. But this view overlooks the advantages that accrue from general knowledge and understanding of health, disease prevention, and risk factor modification. Death rates from ischaemic heart disease fell by 40% in North America between 1963 and 1982. Several studies, particularly the long term follow up by Du-

pont of all of its employees,[3] showed that until the end of 1975 the principal change was a decrease in first events—that is death, heart attack, and angina. After 1975 increased survival after a coronary event contributed to improved outcomes. Life expectancy in North America has increased. Northern Ireland, Scotland, and Wales and England now have the highest death rates from ischaemic heart disease of the Western industrialised world.[4] British physicians continue to point out possible discrepancies in arguments for the cholesterol hypothesis, to criticise efforts to control mild or moderate hypertension, and to minimise efforts at weight control while attributing the failure of the death rate to decline to a lack of cardiologists. Meanwhile Australia, New Zealand, and most of Western Europe are becoming healthier in terms of heart disease.

There seemed to be a general medical apathy about disease prevention in Britain. This is remarkable in a society that unravelled the epidemiology of cholera and the link between cigarette smoking and cancer. In a Channel 4 debate on nutrition and cardiovascular health I saw a distinguished British cardiologist argue that the plight of the country's dairy farmers should not be exacerbated by recommendations about the consumption of dairy products. I found this comment remarkable in the light of the tradition that the physician's responsibility is to the patient and not to any other party or group. What is the responsibility of British cardiology to prevention and to patient education? If the patient is to be so completely trusting is there not greater responsibility for health maintenance, counselling, and prevention? While some of the leaders of British cardiology continue to denigrate the cholesterol-diet hypothesis, vigorous efforts at prevention are lacking and death rates remain high.

Medical outcomes

There are of course great differences in the nature of services and the rate of their provision within the National Health Service compared with other health care delivery systems. I believe that American medicine tries to do too much to terminally ill patients, to the elderly, and even as part of routine care. The United States spends approximately 11·4% of its gross national product on health while Britain spends approximately 5·6%. In North America health services research is revealing many examples of over-utilisation and the rate of the rise in cost has begun to slow. Prospective payments (diagnosis related groups) have sharply shortened length of hospital stays. But in London I had difficulty in obtaining current information on health care results where under-utilisation and/or long delays in treatment were suspected. How many patients die while awaiting bypass surgery? What are the outcomes of care provided in one area where the wait for operation is twice as long as in another area? With continuing cuts to the National Health Service budget should not vigorous health services research be mandatory in order to deal rationally with public policy? Have closures of casualty departments affected emergency care mortality and morbidity? If the United States spends too much, how does one rationally decide what is too little?

A corollary to the problem arises out of the traditional role of the British consultant cardiologist who does all things. Even in large teaching hospitals some cardiologists insist upon doing all procedures upon their patients. There was a striking example of this in a report to a meeting of the British Cardiac Society that I attended. The report focused upon the indications for emergency surgical operations after angioplasty. In this study the overall surgical rate was unacceptably high by any standards. When I inquired I learned that four different cardiologists had performed the initial 66 angioplasties in the series. In view of the well documented learning curve for angioplasties it is clear that only one or two cardiologists should have performed these procedures until an acceptable experience and result had been achieved. With increasing subspecialisation in cardiology I doubt whether such practices are in the patients' best interest.

It was a great surprise to find the extent to which British cardiology has come to rely upon technology in the "American style" rather than upon excellent history taking and physical examination. As an admirer of the Paul Wood and Aubrey Leatham tradition it came as a shock to find a new breed of British cardiologists who were as dependent upon procedures as their North American cousins.

Cardiology research

Clinical research in cardiology in Britain continues to do well. In part this is because of an historical commitment to clinical cardiology and to greater ease in obtaining informed consent and patient agreement to participate in clinical studies. In North America there is a strong sense that cardiology research must have a larger component that is fundamental and cellular. Molecular biology has already had many impacts, including the production of tissue-type plasminogen activator and monoclonal antibodies, and the cloning of membrane channels. Basic science will form an increasingly important

foundation of cardiology. Programmes must be developed to increase the intellectual content and stimulate advances in basic and clinical research in cardiology. I was fortunate to work at the Cardiothoracic Institute at the National Heart Hospital, which is successfully developing such a programme. But there are few other programmes of this type in Britain. The desire of cardiologists to be generalists may have inhibited this development. Basic research in cardiology requires substantial amounts of time. Cardiologists doing such research cannot maintain skills and devote the time necessary to perform catheterisations and angioplasties, or insert pacemakers. An increasing differentiation of the role of the academic cardiologist is needed.

One of the striking features of British science is the tradition that the laboratory investigator conducts all aspects of his or her research: from designing and constructing the electronic equipment to programming the computer; carrying out the experiment; and, in some circumstances, cleaning the glassware. Modern science increasingly demands specialisation, core facilities, technical support experts, and complex statistical analysis. It was not clear to me that this kind of differentiation of function and expertise is occurring in cardiology research to the extent which will be required for the 1990s.

During my year in London the budgets of the National Health Service and for research were cut considerably. University dons made some abortive protests, including denying Mrs Thatcher an honorary degree, but the relative silence of physicians was striking. Casualty departments were closed, paediatric cardiac surgery funding ran out at a main London teaching hospital, and organised British cardiology seemed to be merely an interested observer.

In a discussion about what I construed to be the relative passivity of the British medical profession, a member of parliament told me that it was attributable to two features of the profession. First he said, British physicians accept cuts in services with "a stiff upper lip." Secondly, he observed, British physicians have an authority and status that they fear will be jeopardised by challenging the general public satisfaction with the National Health Service. Indeed, several physicians told me that they did not wish to criticise the health care services for fear of "undermining public confidence" in the National Health Service. Clearly the situation is more complicated than this. The government was determined to make cuts and several physicians told me that they feared retribution if they protested too loudly. After watching the government's success in the coal strike I could understand this concern. But the profession has special responsibilities to promote arguments and to protect science and health care.

The linkage between basic and applied research

Basic science in Britain has made extraordinary contributions to science and health. The number of Nobel laureates in the molecular biology laboratories at Cambridge University is a particularly striking example. In computer software, magnetic resonance imaging, and computed axial tomography scanning, to name just a few, British scientists have been in the vanguard. Yet there is a remarkable reluctance of the basic scientist to work on applications, with industry, and, in some cases, with clinicians. Contrast Cesar Milstein's Nobel prize with the paucity of British biotechnology companies exploiting monoclonal antibodies. Some of these obstacles include the traditional distain of "trade" in Britain and the necessity to keep universities and science free of "contamination" from industry and similar venal interests. When I suggested that the "Oxford Business School" and a "Cambridge Institute of Technology" would go a long way to legitimise engineering and business for the best and the brightest of Oxbridge, several people at a London dinner party suggested that this would be the ruin of civilisation's greatest universities.

Some important moves have been made—particularly the Cambridge University Computer Laboratory which has lead to the development of several successful companies. I hope that this can lead to similar development in biomedical technology.

Patient care

During my stay I experienced the National Health Service as a user. My 15 year old daughter was struck by a motorcycle and seriously injured. After over 20 minutes an ambulance arrived. No service could be provided in the field even though she had no palpable radial and only faint brachial pulses. After being brought to the casualty department of a London teaching hospital she remained screaming on a stretcher for almost 25 minutes before her blood pressure was taken at my insistence. It was reported as 70 palpable. At this point an intravenous line was inserted and fluid administered. The consultant surgeon arrived, and directed her care expertly in the casualty department and in the operating room. Thereafter her care was excellent, despite the paucity of reliable modern volume controlled respirators in the intensive care unit. The nursing care was superb, as good or better than I have ever seen anywhere. The consultants' skills were first rate, the experience of the senior registrars was obvious, and the overall care quite satisfactory.

On balance, based on experience as a physician and as the father of a patient, I would equate patient care in the several London teaching hospitals I visited with that provided at our university-affiliated county hospitals which provide care to the indigent sick. The amount of faculty contact with patients and the role of the house staff was similar. Services for inpatients are probably more easily available in our county hospitals where all diagnostic and therapeutic needs can be met on the same site. The principal advantage of the British system is in the outpatient arena where general practitioners are available to all. In Los Angeles the indigent poor are seen in the crowded outpatients of our county hospitals. America clearly has a two-class health-care system in which the private sector consumes too many resources, probably by 25%, whereas the British private sector is relatively small. I believe the National Health Service is underfunded by about 50%. If adjustments of this order of magnitude were made by both societies, the result would be expenditures of 7·5–8% of gross national product by both. Several British physicians told me that the difference in health care expenditure reflected the relative wealth of the two societies. I find it difficult to accept this interpretation, given the percentage differences.

Attitudes and the future

Many friends and colleagues expressed their view of the United States and American cardiology—Americans are competitive, impatient, materialistic, and believe that everything that is broken should be fixed. As an anglophile I treasure many English values and institutions and wish to see their preservation. At the same time I cannot accept the notion that Britain should accept that its best days have passed. British cardiology has led the way in many areas. Individual genius and talent is present and available. But new approaches are required. More flexibility in organisation and structure, integration of basic research with clinical research, a willingness of academics to relate to clinicians and industry, and increasing specialisation of functions among academic cardiologists and scientists. More resources need to be directed toward development and exploitation of specific, highly focused areas of high-tech and bio-tech. Closer scrutiny of medical outcomes and quality of care are required and an increasing willingness to emphasise prevention.

Please do not misunderstand. I am not advocating an Americanisation of Britain—that is unrealistic and presumptuous—we have enough of our own problems. Rather we must accept that cardiology is an international discipline. British cardiology must position itself to have a major role. This will require the setting of priorities and increasing the focus of attention. This can and must be done. Part of this effort should include efforts to increase public support for more funding of research and patient care.

To all of my British colleagues, particularly my sabbatical hosts, I am deeply grateful. I only hope after these comments they will speak to me again.

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